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Total No. of Pages : 02

Total No. of Questions : 18

M.Sc.(IT)/PGDCA (2019 Batch) (Sem.–1)

OPERATING SYSTEM

Subject Code : PGCA-1903

M.Code : 76973

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C. have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

Explain the following :

- 1) What are real time systems?
- 2) Draw Block diagram of process control box.
- 3) Define threads.
- 4) How is dirty bit used to detect invalid page?
- 5) Define term throughput.
- 6) Name any two system calls.
- 7) Justify the statement – “Two processes are in mutual exclusion but no progress”.
- 8) What is virtual memory?
- 9) What do you mean by thrashing?
- 10) Define operating system.

SECTION-B

- 11) Discuss basic memory management techniques with their advantages and disadvantages.
- 12) What do you mean by operating system? What are the various types of operating systems?
- 13) Explain different page replacement algorithms used in demand paging.
- 14) How safety algorithm is different from banker's algorithm? Does banker's algorithm ensure the safe state of system? Give your opinion.

SECTION-C

- 15) Which scheduling policy will be best in terms of CPU utilization if scheduling criteria is average waiting time? Explain by taking suitable example.
- 16) a. Explain why OS is called resource manager?
b. Differentiate between monolithic and microkernel Operating system.
- 17) What is deadlock? Differentiate between deadlock prevention and deadlock avoidance. How does semaphore works?
- 18) Write overview of Interprocess communication and synchronization.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.